

CLAIM AMENDMENT

Claims 1 to 15 (canceled)

16. (new) A carbon heating apparatus comprises:

a carbon heater (20) made of carbon fiber cut having a constant form with a preset length and width, said carbon heater performed heat treatment in a hydrogen gas atmosphere under a predetermined high temperature to make uniform cut surface structure,

a pair of terminal parts (30) for providing electrical connection to said carbon heater, said terminal parts having a flat portion (31) at one end for connecting to outside power supply lines by welding means and a pair of clamping brackets (32) with protrusions (33) at opposite end for securely attaching to the carbon heater, and

a quartz glass tube having a hollow cylindrical portion for enveloping said carbon heater and melt-jointing portion for sealing both ends of said carbon heater

17. (new) The carbon heating apparatus according to claim 16, wherein said carbon heater adopts mineral carbon materials.

18. (new) The carbon heating apparatus according to claim 16, wherein said one end of the terminal parts forms metal plates of circular wrapping (34) with bent down and up shape (35) and a pair of clamping bands (36) for clamping the carbon heater, while opposite end of the terminal parts is extended to weld with the outside power supply lines.

19. (new) The carbon heating apparatus according to claim 16, wherein said carbon heater is inserted and sealed inside the quartz glass tube filled with an inert gas for preventing

oxidation, said quartz glass tube having either longitudinal or circular shape.

20. (new) The carbon heating apparatus according to claim 16, wherein said terminal parts is consisted of molybdenum with a predetermined thickness and width.

21. (new) The carbon heating apparatus according to claim 20, wherein said terminal parts has a thickness of 28 μ m to 30 μ m and a width of 3mm to 4mm.

22. (new) A method of manufacturing a carbon heating device comprises the steps of:

forming a carbon heater by cutting a predetermined carbon fiber in a constant form to have a predetermined length and width,

heat-treating the carbon heater cut in a hydrogen gas atmosphere under a preset high temperature and vacuum to have uniform cutting surface,

after inserting the heat-treated carbon heater into a quartz glass tube and injecting the hydrogen gas, baking the carbon heater at a predetermined temperature to remove impurities,

primary aging the baked carbon heater by applying a primary aging voltage, .

secondary aging the carbon heater by applying a secondary aging voltage, and

after confirming vacuum state, sealing the quartz glass tube by melting and molding.

23. (new) The method of manufacturing a carbon heating device according to claim 22, the process for cutting the carbon fiber uses either one of press cutting, dedicated jig or wire cutting means.

24. (new) The method of manufacturing a carbon heating device according to claim 22, the heat-treating process performs about 2 ~ 3 minutes in the hydrogen gas atmosphere of 900 $^{\circ}$ C

to 1000°C under a high vacuum state of at least 10^{-5} Torr.

25. (new) The method of manufacturing a carbon heating device according to claim 22, the baking process performs at the temperature of 1600°C to 1700°C to remove impurities.

26. (new) The method of manufacturing a carbon heating device according to claim 22, the primary aging voltage uses 60V to 70V

27. (new) The method of manufacturing a carbon heating device according to claim 22, the secondary voltage uses 100V.

28. (new) The method of manufacturing a carbon heating device according to claim 22, the process for melting and molding the quartz glass tube performs at a high temperature of 1500°C to 1700°C by a hydrogen burner.

29. (new) The method of manufacturing a carbon heating device according to claim 22, the heat-treating process performs heat-treating the carbon heater cut for about 2 hours under a high temperature of 300°C and slowly cooling for 1 hour to obtain a stable section structure on cutting side surface.

30. (new) The method of manufacturing a carbon heating device according to claim 22, the sealing process performs injecting and sealing a mixed gas of methylene 0.25% and bromide 70% into the quartz glass tube.